Information Technology

Unit 2: Creating Systems to Manage Information

Part S

You must have:
1706DATA.txt, Data_Dictionary.rtf,
Design_Specification.rtf, Test_Log.rtf

Instructions

- This task booklet contains material for the completion of the set task under supervised conditions.
- This task booklet is specific to each series and this material must only be issued to learners who have been entered to undertake the task on a date set by Pearson in the relevant series.
- This task booklet should be kept secure until the start of the 10-hour supervised assessment period and inbetween sessions.
- This set task should be undertaken during the assessment period of 1 week timetabled by Pearson.
- This booklet should not be returned to Pearson.

Information

- The total mark for this paper is 66.

Turn over ▶

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Pearson

Instructions to Teachers/Tutors

This paper must be read in conjunction with the unit information in the unit specification and the BTEC Nationals Instructions for Conducting External Assessments (ICEA) document. See Pearson website for details.

The set task should be carried out under supervised conditions.

Electronic templates for Activities 2, 3, 4 and 5 are available on the website for centres to download for candidate use.

Work should be completed on a computer. Internet access is not permitted.

During any breaks, materials must be kept secure.

The learners must complete their work independently whilst being supervised by the teacher/tutor.

Centres are free to arrange the supervised assessment period how they wish provided the 10 hours for producing final outcomes are under the level of control specified, and in accordance with the conduct procedures.

Refer carefully to the instructions in this task booklet and the Instructions for Conducting External Assessments (ICEA) document to ensure that the assessment is supervised correctly.

Learners must not bring anything into the supervised environment or take anything out.

Centres are responsible for putting in place appropriate checks to ensure that only permitted material is introduced into the supervised environment.

Maintaining security

- User areas must only be accessible to the individual learners and to named members of staff.

- Learners can only access their work under supervision.

- Internet access is not permitted.

- Learners' work must be regularly backed up. Learners should save their work to their folder using the naming instructions indicated in each activity.

- Any work learners produce under supervision must be kept secure.

- Any assessment materials not required by learners for submission must be collected and held securely by the Exams Officer until the EAR deadline at which point they may be recycled or destroyed.

- Any materials being used by learners must be collected in at the end of each session, stored securely and handed back at the beginning of the next session.

Outcomes for submission

Each learner must create a folder to submit their work. Each folder should be named according to the following naming convention:

[Centre #]_[Registration number #]_[surname]_[first letter of first name]

Example: Joshua Smith with registration number F180542 at centre 12345 would have a folder titled

12345_ F180542_Smith_J

Each learner will need to submit 8 PDF documents, within their folder, using the file names listed.

Activity 1: activity1erd_[Registration number #]_[surname]_[first letter of first name]

Activity 2: activity2data _[Registration number #]_[surname]_[first letter of first name]

Activity 3: activity3design_[Registration number #]_[surname]_[first letter of first name]

Activity 4: activity4test_[Registration number #]_[surname]_[first letter of first name]

Activity 5a: activity5screenshots_[Registration number #]_[surname]_[first letter of first name]

Activity 5b: activity5report_[Registration number #]_[surname]_[first letter of first name]

Activity 5c: activity5testing_[Registration number #]_[surname]_[first letter of first name]

Activity 6: activity6evaluation_[Registration number #]_[surname]_[first letter of first name]

An authentication sheet must be completed by each learner and submitted with the final outcomes.

The work should be submitted no later than 15 May 2017.

Instructions for Learners

Read the set task information carefully.

This contains all the information you need to complete each activity within the set task.

Plan your time carefully to allow for the preparation and completion of all the activities.

You will complete the activities within the set task under supervision and your work will be kept securely during any breaks taken.

Internet access is not allowed.

You must work independently throughout the supervised assessment period and should not share your work with other learners.

Your teacher/tutor may clarify the wording that appears in this task but cannot provide any guidance in completion of the task.

This task must be completed under supervision in timetabled sessions provided by your centre. It is likely that you will be given more than one timetabled session to complete these tasks.

Outcomes for submission

You must create a folder to submit your work. Each folder should be named according to the following naming convention:

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Activity 5a: activity5screenshots_[Registration number #]_[surname]_[first letter of first name]

Activity 5b: activity5report_[Registration number #]_[surname]_[first letter of first name]

Activity 5c: activity5testing_[Registration number #]_[surname]_[first letter of first name]

Activity 6: activity6evaluation_[Registration number #]_[surname]_[first letter of first name]

You must complete an authentication sheet before you hand your work into your teacher/tutor.

Set Task Brief

You are advised to spend 15 minutes reading the assessment task, information, task instructions and the activities you are to complete. You may make notes and/ or highlight information to use in the completion of the documents you need to produce for your task.

Task scenario

You have been asked to create a database for Castles Live and Loud, an events company that arranges concerts in castles around the UK for people over the age of 16.

The database will record information about the venue, bands, promotional goods sold and details of bookings made by customers.

The company has a range of concert venues:

• Gwyrfai Castle in Wales
• Inny Castle in Ireland
• Spey Castle in Scotland
• Taw Castle in England.

The ticket cost for each band is:

• Big 6 Music £65
• Fisherman £120
• Jungle blu £120
• LongRock8 £89
• Mockingbird £89
• Musictune £65
• Ping Stars £115

The bands earns 25% of all ticket sales for all concerts.

Some concerts are used to raise money for charity. 50% of the total ticket income from these concerts is donated to charity by Castle Live and Loud. The database needs to calculate each band's income and the 50% donated to charity.

Castles Live and Loud sells promotional goods at the events. Bands earn 25% of all promotional sales.

Price of the promotional goods:

Poster   £9.99
DVD   £15.99
Perfume   £32.30
T-shirt   £29.99
Charm bracelet   £22.50

You need to:

- design a relational database structure that:

  - matches the data provided
  - avoids unnecessary duplication of data
  - uses recognised naming conventions
  - ensures data integrity

- provide accurate validation rules where appropriate ensuring a minimum of:

  - a range check on a suitable field,
  - a presence check on a suitable field
  - a list check or table lookup

- import the data from file 1706DATA.txt into your database structure

- facilitate database input:

  - input form to register a new customer
  - input form to sell tickets to customers

- show the design view for:

  - a query to display the concert venues and concert dates for which the Adamstone family have purchased tickets

  - a query to display an alphabetically sorted list of females by surname who attended the event at Spey Castle on 1 July 2016, showing full name and age

  - a query to calculate the average age of the audience for Musictune at each venue, showing venue details and average age

  - a query that would allow a user to enter a band name and a month as parameters. Display the calculated income for this band and month

  - a report to display the calculated 50% charitable donation for each group during the month of July

- create a suitable user interface that provides a menu to access the queries and reports listed and the forms required for data entry

- test your database:

  - test your input forms, calculations, validation and macros/code using appropriate test data (normal, erroneous and extreme)

  - test your queries and reports to ensure they show the correct information.

- evaluate your database against the given scenario justifying:

  - how well your solution meets the requirements of the scenario
  - the quality, performance and usability of the database
  - the changes made during the development and testing process.

Set Task

You must complete ALL activities within the set task.

Produce your documents using a computer.

Save your documents in your folder ready for submission using the formats and naming conventions indicated.

Activity 1: Entity relationship diagram

Produce an entity relationship diagram (ERD), with attributes for the database by normalising the given data to third normal form ensuring that all screenshots are clear and large enough to be read.

Save your entity relationship diagram as a PDF in your folder for submission as **activity1erd_[Registration number #]_[surname]_[first letter of first name]**

You are advised to spend 1 hour on this activity.

(Total for Activity 1 = 8 marks)

Activity 2: Data dictionary

Produce a data dictionary for your database using the template **Data_Dictionary.rtf**

Duplicate the table, extend the box space and add extra rows to fit your answer as required.

Save your data dictionary as a PDF in your folder for submission as **activity2data_[Registration number #]_[surname]_[first letter of first name]**

You are advised to spend 1 hour on this activity.

(Total for Activity 2 = 8 marks)

Activity 3: Design specification

Produce a design specification for your database using the template **Design_Specification.rtf**

Ensure sufficient information is provided for a third party to implement the design specification for your solution.

Extend the box space and add extra rows to fit your answer as required.

Save your design specification as a PDF in your folder for submission as **activity3design_[Registration number #]_[surname]_[first letter of first name]**

You are advised to spend 1 hour and 45 minutes on this activity.

(Total for Activity 3 = 6 marks)

Activity 4: Testing plan

Produce a test log to plan how you will test your database using the template
Test_Log.rtf

Extend the box space and add extra rows to fit your answer as required.

Save your test plan as a PDF in your folder for submission as
activity4test_[Registration number#]_[surname]_[first letter of first name]

You are advised to spend 1 hour on this activity.

(Total for Activity 4 = 6 marks)

Activity 5: Database development

(a) Record your database development as annotated screenshots in a single document.

Display your screenshots to show:

- the design view of all tables, including the fields, properties and validation

- imported data for each table showing a maximum of five records and the full record count. (If the fields are too wide to fit on one page, truncated data is allowed.)

- table relationships

- the design view of all queries, including fields and criteria

- the design view **and** the form view of all forms you have created, including any calculations, validation and macros/code

- the design view of the report you have created.

Save your screenshots as a PDF in your folder for submission as
activity5screenshots_[Registration number #]_[surname]_[first letter of first name]

(b) Save your database report (not a screenshot) as a PDF in your folder for submission as
activity5report_[Registration number #]_[surname]_[first letter of first name]

(c) Record your testing including test results, comments and actions taken to resolve issues in the test log you created in **Activity 4**.

Save your completed test log as a PDF in your folder for submission as
activity5testing_[Registration number #]_[surname]_[first letter of first name]

You are advised to spend 4 hours on this activity.

(Total for Activity 5 = 26 marks)

Activity 6: Evaluation of your database solution

Evaluate your solution.

You should consider:

• how well your solution meets the requirements of the scenario
• the quality, performance and usability of the database
• the changes made during the development and testing process.

Save your evaluation as a PDF in your folder for submission as
activity6evaluation_[Registration number #]_[surname]_[first letter of first name]

You are advised to spend 1 hour on this task.

(Total for Activity 6 = 12 marks)

TOTAL FOR TASK = 66 MARKS